T·H·E Quick Answer
March 1995
The independent monthly guide to Q&A expertise

Q&A for DOS Font Solutions and Your Laser Printer

Need better looking output but can't afford one of those new printers with the built-in scalable fonts? You can use soft fonts with your trusty old laser. Soft fonts aren't a major investment, and Q&A is built to handle them.

By Roger Skidmore

DOS

I'VE stayed with Q&A for DOS not only because of its familiarity and snappy performance, but because it accommodates the wide range of laser printer fonts I like. I use a database for three things—storing data, working with data, and outputting data—and I like my printed output to be well presented.

Though Windows converts might point out that font management in Q&A for Windows is a piece of cake, Q&A for DOS has all the font-handling finesse you're likely to need. Long before Q&A for Windows came along, and when other databases were limited to their printers' internal fonts, I was enhancing my Q&A merge letters and reports with a variety of fonts. I'll tell you how I do it, but first, here's a little background on laser printer fonts.

Three types of fonts

A font is a complete set of characters in one typeface and size. Most laser printers can accommodate three types of fonts: internal fonts built into the printer (the older the printer, the less variety); plug-in cartridge fonts, which work like internal fonts but can be extremely slow; and soft fonts, which are stored on your PC's hard drive and downloaded to the printer's memory.

Font cartridges

Font cartridges designed for specific printers are available from computer and printer retailers. Contact your printer manufacturer for more information. If you purchase a font cartridge, be sure it's for your make and model of printer and that you also receive a disk containing font description information in a file that Q&A can understand. The alternative is to modify your Q&A .FNT font description file using the Modify font file command on the Utilities menu. It can be hard work, and I don't recommend it.

Continues on page 7

CONTENTS

Q&A for DOS Font Solutions and Your Laser Printer, *Roger Skidmore* 1
README.1ST, *Tom Marcellus* 2
Create a Custom Investment Tracker, *David Dvorin* . 3
@HELP, *Dave Reid* 10
Design a Time Performance Report, *Joe LaDew with Tom Marcellus* 11
Protect Fields from Changes, *Jeff Nitka* 14
*Quick*Tip: Get More Font Power 9

PINNACLE

The Quick Answer

Editor ..... Tom Marcellus
Managing Editor ..... Roland Winkler
Associate Editor ..... Laurie Moloney
Production Editor ..... Paul Gould
Publisher ..... Susan Harker
Editorial Director ..... Dian Schaffhauser
Circulation Director ..... Sharon Whiting

The Quick Answer (ISSN 1052-3820) is published monthly (12 times per year) by Pinnacle Publishing, Inc., 18000 72nd Avenue South, Kent, WA 98032. Cost of domestic subscriptions: 12 issues, $79.00; 24 issues, $142.00. Outside the U.S.: 12 issues, $99.00; 24 issues, $172.00. Single copy price: $10.00; outside the U.S., $12.50. All funds must be in U.S. currency. Back issues are available upon request, for the same price as a single copy; multiple-copy discounts are available.

For European newsletter orders, contact: Tomalin Associates, The Old Bakery, High Street, Great Bardfield, Essex CM7 4RF, United Kingdom
Phone: +44 (0)1371 811299; fax: +44 (0)1371 811283. 12 issues: £69; 24 issues: £109

Second-class postage paid at Kent, WA and additional entry points. USPS#006941. POSTMASTER: Send address changes to *The Quick Answer*, PO Box 888, Kent, WA 98035-0888.

Copyright © 1990–1995 by Pinnacle Publishing, Inc. All rights reserved. No part of this periodical may be used or reproduced in any fashion whatsoever (except in the case of brief quotations embodied in critical articles and reviews) without the prior written consent of Pinnacle Publishing, Inc.

Address editorial correspondence, @HELP questions, or requests for special permission to: The Editor, *The Quick Answer*, PO Box 888, Kent, WA 98035-0888. Or leave CompuServe messages at 72600,140. We will publish only those questions we feel are of general reader interest; individual responses are not possible. For subscription information, back-issue requests, and bulk orders, call our Customer Service department at 800-788-1900 or 206-251-1900.

For Q&A technical support, call Symantec: 503-465-8600.

Q&A is a trademark of Symantec Corp. Other brand and product names are trademarks or registered trademarks of their respective holders.

This publication is intended as a general guide. It covers a highly technical and complex subject and should not be used for making decisions concerning specific products or applications. This publication is sold as is, without warranty of any kind, either express or implied, respecting the contents of this publication, including but not limited to implied warranties for the publication, quality, performance, merchantability, or fitness for any particular purpose. Pinnacle Publishing, Inc., shall not be liable to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by this publication. Articles published in *The Quick Answer* do not necessarily reflect the viewpoint of Pinnacle Publishing, Inc.

PINNACLE

Volume 6, Issue 3

README.1ST

If you're into stocks or mutual funds, chances are you'd like a convenient way to keep tabs on whether they're gaining or losing, and how they've performed over time. The types of transactions involved and the complex calculations required, though, can make database design daunting. Thankfully, **David Dvorin** has worked out the logic and programming so you won't have to. Use his customizable investment tracker as a guide, and you'll be able to log transactions—purchases, sales, reinvestments—or check a stock's status, with just a few keystrokes. Dave also shows you how to design a trend report, and a chronological summary of transactions with a running history of results.

Joe LaDew runs the receiving department in a large corporate division and uses Q&A to track in-house routing of incoming parcels. He needed a way to summarize his department's performance for the week and month so he could spot lapses, improvements, and trends. Conditional derived report columns proved to be the solution. If time and activity tracking is important to your business, follow Joe's example to get the big picture without sacrificing the vital detail.

Jeff Nitka's challenge was to protect sensitive database fields without making them read-only. If you want to make fields accessible for original data entry, and lock them once the record is saved, find out how Jeff does it with a few form modifications and a simple programming routine.

Q&A for Windows gives you a variety of fonts and font sizes for laser printers. Q&A for DOS isn't so generous, but you still have plenty of options. **Roger Skidmore**, an optician with an eye for good-looking output, was sprucing up his Q&A documents and reports with snazzy fonts long before Windows was all the rage. He tells you about the types of third-party fonts available, how to obtain them, and how to make them work in Q&A for DOS.

We also have lots of good tips and questions and answers for you in this issue. If there's something that you'd like to see us cover—or better yet, if you have a great application or tip that you'd like to share—drop me a line. I always enjoy hearing from you.

Tom Marcellus
Editor

© Pinnacle Publishing, Inc.

Create a Custom Investment Tracker

Are your stocks and mutual funds gaining or losing? How have they performed over the long term? With Q&A you can have this information at your fingertips.

By David E. Dvorin

DOS WIN

IF you have investments such as stocks or mutual funds, you probably want to keep tabs on how these investments are performing. Periodic statements you receive and information found in financial newspapers don't tell you the total return or your net gain or loss based on current market values.

INTRACK, short for investment tracker, is a database I originally developed in Q&A for DOS 3.0 (though it can be designed in Q&A for Windows, as well) to calculate the return on stock and mutual fund investments along with their net gains or losses based on current market values. INTRACK lets you track the performance of each of your investments over time so you can compare them to other investment options.

I'll show you how to create the INTRACK database and two informative investment performance analysis reports. I'll assume that you're familiar with basic investment terminology and that you've had some experience creating Q&A databases and reports.

Add Restrictions

To make data entry faster and more consistent, you can place field restrictions on the transaction Type field. If you're using Q&A for DOS 4.0 or Q&A for Windows, your Restrict Spec can also serve as a list you can display from the Type field during data entry (by pressing Alt-F7 in Q&A for DOS 4.0 or using the field's drop-down list in Q&A for Windows). Go to the Restrict Spec, move to the Type field, and type in the following restricted values, separating each one with a semicolon: REINVEST, CASH, SALE, PURCHASE, CHECK.

What INTRACK does

INTRACK provides you with up-to-date information about your investment as you complete each transaction. You assign an investment number to each investment you wish to track. The database can handle up to 999 different investments.

When you start a new transaction record, you enter the investment number and the transaction date (the current date is the default), and INTRACK prompts for the transaction type: Sale, Purchase, Reinvest, Cash, or Check. You enter Purchase (or select it from your restricted values list) if the transaction involves a new purchase of shares of the investment; reinvest if the investment has provided a return (interest or dividends) that you've put back into the investment; cash if you've received a distribution (interest or dividend) in cash; sale if you've sold any of your shares; or check if you just want to check the current

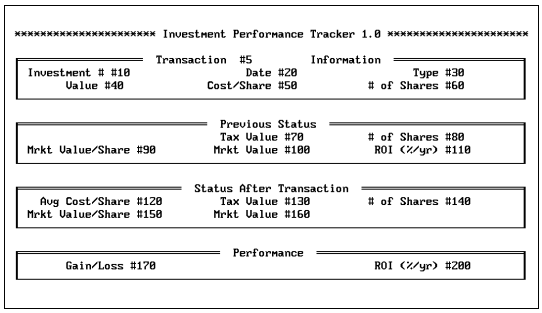

Figure 1. *INTRACK main screen shown with Program Spec Field ID numbers.*

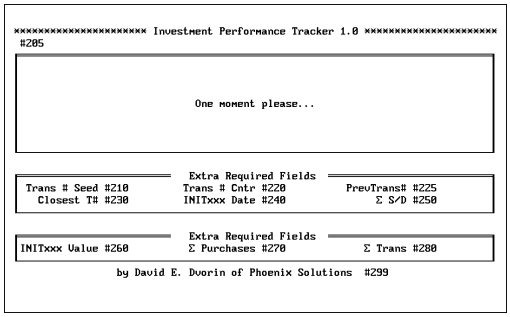

Figure 2. *INTRACK intermediate calculation screen with Program Spec field ID numbers shown. The "Σ" symbol (ASCII 228) is the Greek Sigma character indicating a sum.*

© Pinnacle Publishing, Inc.

rate of return of an investment. INTRACK then prompts for a few details it needs to know about the transaction.

The INTRACK database includes three fields that describe the money involved with the transaction: Value, Cost/Share, and # of Shares. After you enter two of the three, INTRACK fills in the rest of the fields and displays the investment's total return. You should then save the record because INTRACK will use it's data for the next transaction for that investment.

Once you've designed the database and entered some transactions, you can begin printing your performance analysis reports, which I'll discuss later.

INTRACK form design

Figures 1 and 2 show the INTRACK screens with Program Spec field ID numbers in place. (You'll refer to these fields and ID numbers when you program the database.) Figure 1 shows INTRACK's main screen, where you enter your data and view the results. The screen is divided into four sections: Transaction Information, Previous Status, Status After Transaction, and Performance. Figure 2 shows the intermediate calculations area of the form where the message, "One moment please...," is displayed while INTRACK is performing its lookups and calculations. In Q&A for DOS, you can add programming to prevent access to this part of the form (I'll show you how, later) because there's nothing to enter or edit here. Or, you can make these fields read-only.

Table 1. *INTRACK field formatting codes.*

Transaction T	# of Shares N3
Investment # N0	Mrkt Value/Share N3,JR
Date D	Mrkt Value N2,JR
Type TU	Gain/Loss N2
Value N2	ROI (%/yr) N2
Cost/Share N3	Trans # Seed T
# of Shares N3	Trans # Cntr T
Tax Value N2,JR	PrevTrans# T
# of Shares N3	Closest T# T
Mrkt Value/Share N3	INITxxx Date D
Mrkt Value N2,JR	Σ S/D N2
ROI (%/yr) N2	INITxxx Value N2
Avg Cost/Share N3,JR	Σ Purchases N2
Tax Value N2,JR	Σ Transactions N2

Create the INTRACK database

Create the INTRACK data-entry form by laying it out as illustrated in Figures 1 and 2 but don't type in the Program Spec field ID numbers. For INTRACK's form I used the "<" and ">" to delineate the beginning and end of the information blank. I found the form easier to read without the usual colons following the field labels.

With the screen layout saved, format the fields as shown in Table 1.

Programming INTRACK

INTRACK's programming does most of the work for you. It lets you enter a transaction with a few keystrokes and see the results immediately. Using the field ID numbers in Figures 1 and 2 as

INTRACK Definitions

INTRACK requires some specialized terminology. The following definitions pertain to the fields shown in Figure 1:

- Transaction is a unique number Q&A assigns to the record being entered. The Transaction field must be Speedy.
- Investment # is a unique number you assign to an investment. For example, if you assign investment number 1 to your XYZ Corp. stock, then every transaction you record concerning this stock must have an investment number of 1. Investment # is a Speedy field.
- Tax Value is the amount of money invested or removed from the investment by direct purchases, reinvested distributions, or sales of shares.
- Avg Cost/Share is the Tax Value divided by the total number of shares owned.
- Market Value is the value of the investment as of the last transaction. It takes into account what the market is paying per share for your investment at the time of the transaction.
- ROI (Return on Investment) is the total return on your investment since you began tracking it. It takes into account purchases, sales, reinvestments, and distributions.
- Gain/Loss is the amount of money earned or lost by the investment since you began tracking it.

© Pinnacle Publishing, Inc.

references, enter the following programming statements into the corresponding fields at the Program Spec (not all the fields require programming):

```
<#5: If @Update then {@Help(#200); goto #5}
     else goto #10

>#10: If #10="" then {@Help(#10); goto #10};
      #20=@Date

>#20: Goto #210

>#30: @Msg(""); If #30="CHECK"
      then {#40=0; #60=0; goto #50};
      If #30="PURCHASE" or #30="REINVEST"
      or #30="CASH" or #30="SALE"
      then goto #40 else {@Help(#30);
       goto #30}

>#50: If #30="CHECK" then goto #70;
      If #40<>"" and #50<>"" then {#60=#40/#50;
       goto #70}

>#60: If (#40="" and #50="") or (#40="" and #60="")
      or (#50="" and #60="")
      then {@Help(#60); goto #40};
      If #40="" then #40=#50*#60;
      If #50="" then #50=#40/#60

<#70: If #30="SALE" or #30="CASH"
     then {#250=#250+#40; #40=-#40; #60=-#60};
      If @Left(#30,4)="INIT" then goto #120
     else {#70=@Xlookup(@Filename,#225,"X#5",
      "X#130"); goto #80}

<#80=@Xlookup(@Filename,#225,"X#5","X#140");
      goto #90

<#90=@Xlookup(@Filename,#225,"X#5","X#150");
      goto #100

<#100=@Xlookup(@Filename,#225,"X#5","X#160");
      goto #110

<#110=@Xlookup(@Filename,#225,"X#5","X#200");
      goto #120

<#120: If #30="SALE" or #30="CASH"
      then #120=@Xlookup(@Filename, #225,"X#5",
      "X#120") else #120=(#40+#70)/(#80+#60);
       goto #130

<#130: If #30="SALE"
       then goto #140; If #30="CASH"
      then #130=@Xlookup(@Filename,#225,"X#5",
       "X#130") else #130=#40+#70; goto #140

<#140: If #30="CASH"
      then #140=@Xlookup(@Filename,#225, "X#5",
       "X#140") else #140=#60+#80;
       If #30="SALE" then #130=#140*#120; goto #150

<#150=#50; goto #160

<#160=#140*#150; goto #270

<#200=@Cgr(@Xlookup(@Filename,"INIT"+@Left(#5,3),
     "X#30","X#40"), #280-(#270-@Xlookup(@Fn,
     "INIT"+@Left(#5,3),"X#30","X#40")),(#20-#240)
     /365)*100; @Msg("");
     If @Left(#30,4)="INIT" then #200=0

<#205: Goto #200

<#210: If #10<100 then #220="0";
       If #10<10 then #220="00";
      #210=#220+@Str(#10)+@Mid(@Date,6,2)+
      @Mid(@Date,9,2)+@Mid(@Date,3, 2)+"99";
      Xlookupr(@Filename,#210,"X#5","X#5",#230);
       goto #220

<#220: If @Left(#210,3)<>@Left(#230,3) or
       @Mid(#210,4,6)<>@Mid (#230,4,6)
      then #5=@Left(#210,9)+"01"
      else {#220=@Num(@Right (#230,2))+1;
       If #220=100 then #220=1;
      If #220<10 then #220="0" +@Str(#220);
      #5=@Left(#230,9)+@Str(#220)}; goto #225

<#225=@Xlookupr(@Fn,#5,"X#5","X#5");
     If @Left(#5,3)<> @Left(#225,3)
     then {#225="Initial";
     If #10<100 then #30="INIT0"
     else #30="INIT";
     If #10<10 then #30="INIT00";
     #30=#30+@Str(#10)}; goto #240

<#240=@Xlookup(@Fn,"INIT"+@Left(#5,3),"X#30","X#20");
      goto #250

<#250=@Xlookup(@Fn,#225,"X#5","X#250");
     If @Left(#30,4) ="INIT"
     then {@Msg(""); goto #40} else goto #260

<#260=@Xlookup(@Filename,"INIT"+@Left(#5,3),"X#30",
     "X#40"); goto #30

<#270: If @Left(#30,4)="INIT"
       then #270=#40;
       If #30="PURCHASE"
      then #270=@Xlookup(@Filename,#225,"X#5",
        "X#270")+#40; If #30= "REINVEST" or
        #30="CASH" or #30="SALE" or #30="CHECK"
      then #270= @XLookup(@Filename,#225,"X#5",
       "X#270"); goto #280

<#280=#250+#160; #170=#280-#270; goto #200

<#299: goto #200
```

Data-Entry Help Screens

Add the following help screens and text to INTRACK to guide data entry:

```
Transaction
To ensure data integrity, you can't update records
in this database. To see information in records, use
Report. To continue, press Esc twice and press Y to
exit without saving changes.

Investment #
An investment number is required.

Type
Enter the type of transaction:
  REINVEST for reinvested distributions
  SALE for reimbursements on sold shares
  CASH for distributions taken in cash
  CHECK to check investment status
  PURCHASE for the purchase of additional shares
Optionally, make your selection from the restricted
values list.

# of Shares
You must fill two of the three fields
in this row of the Transaction Information section.

ROI (%/yr)
Return on Investment is the annualized total return
of your investment since its inception. It takes
into account any additional purchases, sales,
reinvestments, and distributions.
```

With your help screens done, you can now enter your investment transactions.

INTRACK's Program Spec is now complete. See the sidebar, "Data Entry Help Screens," to add help screens.

Design the INTRACK reports

You can design all kinds of informative reports to analyze your investments. I'll show the two essential ones. The first, Investment Histories (see Figure 3), shows how each investment has performed over time. The second, Investment Summaries (see Figure 4), gives you the status of each investment as of the last transaction.

The Investment Histories report includes all the records in the database. Following are the Column/Sort Specs for the relevant fields:

```
Investment #: 1,AS,H(5:Inv #),F(JC)
Date: 2,AS,CS,R
Type: 3
Value: 4
Cost/Share: 5,H(:$/Shr)
# of Shares: 6,H(:Shares)
Avg Cost/Share: 7,H(:AvgShrCost)
Tax Value: 8,H(:Tax $)
# of Shares: 9,H(:Shares)
Mrkt Value/Share: 10,H(Mrkt $/Shr)
Mrkt Value: 11,H(:Mrkt $)
Gain/Loss: 12,H(:Gain)
ROI (%/yr): 13,H(:ROI)
```

The Investment Summaries report also includes all the records in the database. Here are the Column/Sort Specs:

```
Transaction: 1,I
Investment #: 2,AS,I
Date: 3,DS,I
Avg Cost/Share: 5,I
Tax Value: 6,I
# of Shares: 7,I
Mrkt Value/Share: 8,I
Mrkt Value: 9,I
Gain/Loss: 10,I
ROI (%/yr):  11,I
```

The Investment Summaries report requires the following 11 derived columns:

```
Heading: Current INV#
Formula: @Left(#1,3)
Column Spec: 4,I

Heading: Previous INV#
Formula: @Left(#1,3)
Column Spec: 50,I

Heading: Inv #
Formula: @Text((#4<>#50),#2)
Column Spec: 12,F(JC)

Heading: As of
Formula: @Text((#4<>#50),#3)
Column Spec: 13
```

Report: Investment Histories
Datafile: INTRACK
08/23/94

Inv #	Date	Type	Value	$/Shr	Shares	AvgShrCost	Tax $	Shares	Mrkt $/Shr	Mrkt $	Gain	ROI
8	08/09/90	INIT008	7000.00	10.000	700.000	10.000	7000.00	700.000	10.000	7000.00	0.00	0.00
	11/07/90	REINVEST	260.81	14.000	18.629	10.104	7260.81	718.629	14.000	10060.81	3060.81	335.40
	08/15/92	REINVEST	109.00	17.518	6.222	10.167	7369.81	724.851	17.518	12697.94	5697.94	79.66
	11/10/92	REINVEST	259.27	11.900	21.787	10.218	7629.08	746.638	11.900	8884.99	1884.99	20.93
	11/30/92	SALE	-1150.00	11.500	-100.000	10.218	6607.35	646.638	11.500	7436.34	1586.34	16.88
	06/01/93	REINVEST	13.29	11.550	1.151	10.220	6620.64	647.789	11.550	7481.96	1631.96	12.25
	11/30/93	CASH	-267.60	12.000	-22.300	10.220	6620.64	647.789	12.000	7773.47	2191.07	12.50
	02/01/94	CHECK	0.00	11.452	0.000	10.220	6620.64	647.789	11.452	7418.48	1836.08	9.83
	06/01/94	REINVEST	189.10	12.200	15.500	10.267	6809.74	663.289	12.200	8092.13	2509.73	11.50
	06/15/94	PURCHASE	1250.00	12.500	100.000	10.559	8059.74	763.289	12.500	9541.11	2708.71	12.15
9	01/01/94	INIT009	5235.00	12.500	418.800	12.500	5235.00	418.800	12.500	5235.00	0.00	0.00
	01/31/94	REINVEST	29.82	12.520	2.382	12.500	5264.82	421.182	12.520	5273.20	38.20	9.25
	02/28/94	REINVEST	26.90	12.550	2.143	12.500	5291.72	423.325	12.550	5312.73	77.73	9.72
	03/28/94	REINVEST	26.75	12.500	2.140	12.500	5318.47	425.465	12.500	5318.31	83.31	6.93
	04/23/94	SALE	-500.00	12.550	-39.841	12.500	4820.30	385.624	12.550	4839.58	104.58	6.66
	04/30/94	REINVEST	30.94	12.590	2.458	12.501	4851.24	388.082	12.590	4885.95	150.95	9.11
	05/31/94	REINVEST	26.73	12.660	2.111	12.501	4877.97	390.193	12.660	4939.84	204.84	9.79
	06/28/94	REINVEST	24.17	12.580	1.921	12.502	4902.14	392.114	12.580	4932.79	197.79	7.90

Figure 3. *The Investment Histories report shows investment performance over the long haul. This sample report includes two investments.*

Report: Investment Summaries
Datafile: INTRACK
08/23/94

Inv #	As of	ROI	Gain	Value	Shr Value	# Shrs	Tax $	AvgShrCost
8	06/15/1993	12.15	2708.71	9541.11	12.5	763.289	8059.74	10.559
9	06/28/1994	7.9	197.79	4932.79	12.58	392.114	4902.14	12.502

Figure 4. *The Investment Summaries report shows the status of each investment as of its last transaction.*

© Pinnacle Publishing, Inc.

```
Heading: ROI
Formula: @Text((#4<>#50),#11)
Column Spec: 14,F(JR)

Heading: Gain
Formula: @Text((#4<>#50),#10)
Column Spec: 15,F(JR)

Heading: Value
Formula: @Text((#4<>#50),#9)
Column Spec: 16,F(JR)

Heading: Shr Value
Formula: @Text((#4<>#50),#8)
Column Spec: 17,F(JR)

Heading: # Shrs
Formula: @Text((#4<>#50),#7)
Column Spec: 18,F(JR)

Heading: Tax $
Formula: @Text((#4<>#50),#6)
Column Spec: 19,F(JR)

Heading: AvgShrCost
Formula: @Text((#4<>#50),#5)
Column Spec: 20,F(JR)
```

For a quick analysis of your investments, you can set both reports to print to screen. From there you can print out hard copies if you need them.

You can, of course, customize INTRACK and these reports to your own needs. You can create your own unique form layout, add fields, and modify your programming, restrictions, and help screens. I've shown what you need to create the basic application. You can take it from here.

David Dvorin owns Phoenix Solutions of Hillborough, New Jersey, which specializes in tailoring off-the-shelf software for a broad range of business needs. He has several versions of INTRACK available for sale and can customize the application to your needs. 908-281-6272.

Fonts *Continued from page 1*

The only font cartridge I still use is UDP Presentations Plus C4 for headlines and presentations. Hewlett Packard's Master Type Series includes a cartridge with equivalent large presentation fonts. In my experience, multifont cartridges such as 25-In-One slow printing to a crawl. You probably don't need that many fonts anyway, so avoid the temptation.

Soft fonts

Soft fonts are also available from computer outlets and printer manufacturers. They come on disk, and you copy them to your hard disk under names that attempt to describe the font's characteristics within the limits of DOS file names. Often, the file name includes a number to designate the font's point size, along with a file name extension such .SFP or .SFL for portrait or landscape orientation.

To use soft fonts in Q&A, you have to download them to the printer via a batch file after switching on the printer and prior to starting Q&A, or via a terminate-and-stay-resident (TSR) program. The batch file method is transparent, and fully automatic, and it downloads the same set of fonts each time. The TSR approach lets you download selected fonts at any time via a menu you can pop-up with a hot key from inside Q&A. I'll discuss these techniques later.

Q&A, soft fonts, and font descriptions

You have to tell Q&A which fonts you plan to use so Q&A can tell your printer when and how to use them. That's where the Q&A printer driver or font description file comes into play.

To apply a font or enhancement to your text while working in Q&A, you press Shift-F6 for the Text Enhancements and Fonts menu (see Figure 1) and choose boldface, italics, underline, and so forth, along with up to nine fonts. However, before you can apply fonts to your text, you have to *assign* them by filling out the Font Assignments screen (see Figure 2). When you assign fonts, you're really assigning *font descriptions* because Q&A doesn't provide the fonts themselves. The font descriptions simply tell Q&A how to use the fonts

The Font Assignments screen, which you can reach by pressing Ctrl-F9 (or by pressing A - Assign fonts from the Text Enhancements and Fonts menu), prompts for the Q&A font description file you want to use (for example, HPLJSOFT.FNT). Once you've typed in the file name or selected it from the list of available font description files, you can then select your font descriptions. They'll appear on the Text Enhancements and Fonts menu when you press Shift-F6 to apply a font.

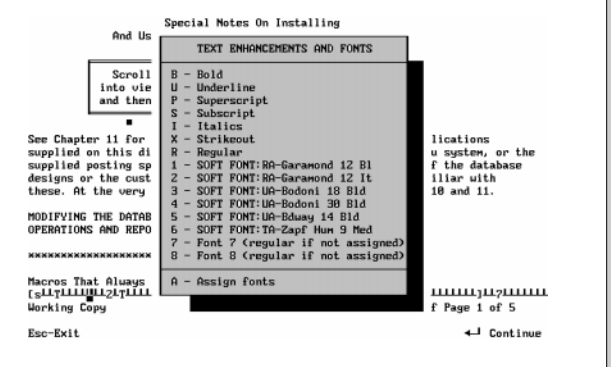

Figure 1. *Use the Text Enhancements and Fonts menu to format your text.*

© Pinnacle Publishing, Inc.

The tricky part is getting new font descriptions into the Q&A .FNT font description file. You can only use one font description file at a time, and descriptions for any new fonts you buy have to be added to the file. You can add font descriptions to your .FNT file the hard way via the Modify font file selection on the Utilities menu, or the easy way by using the QAFONT.EXE utility program supplied with Q&A.

Utility appends new font descriptions

QAFONT.EXE, which comes with Q&A, allows you append new font descriptions to an existing font description file. You run QAFONT.EXE from the DOS prompt (it should be in the same directory as your Q&A program files). You have to know which Q&A .FNT font description file you're using (it should also be in your Q&A program files directory), and it has to be the correct file for your printer. You also have to know where your HP-compatible soft font files are stored (in the C:\FONTS\ subdirectory, for example).

After starting QAFONT.EXE, read each screen carefully, and the utility will walk you through the steps necessary to append new font descriptions to your existing .FNT file. Whatever you do when using QAFONT.EXE, never select the overwrite option unless you want to say good-bye to your existing font descriptions.

Soft font options

Though you can purchase soft fonts ready to install and use, these typically limit you to specific sizes. For more flexibility, look for a soft font program that lets you size fonts to your specifications. Two such soft font programs are MoreFonts from MicroLogic Software and AGFA Compugraphic's Type Director. Both products help you create font groups in various sizes and both include download utilities.

Resources

MoreFonts
MicroLogic Software
1351 Ocean Ave.
Emeryville, CA 94608
510-652-5464

Type Director
AGFA Compugraphics
90 Industrial Way
Wilmington, MA 01887
800-424-8973

TSR Download
Gary Elfring
PO Box 61
Wasco, IL 60183
708-377-3520

PrintCache
(also called LaserTorq)
LaserTools Corp.
3025 Buena Vista Way
Berkeley, CA 94708
415-843-2234

The program that made soft font management easiest for me was Gary Elfring's TSR Download. This well-behaved TSR program comes with a package of ready-to-use soft fonts and features a pop-up font selection menu you can conveniently display over Q&A's Font Assignments screen, if you like. This way, you can see the font assignments you've made, select the corresponding fonts on the pop-up menu, and download just the ones you want.

Another utility I've found helpful is a laser printer buffer called PrintCache (also called LaserTorq) from LaserTools Corp. The beauty of PrintCache is that it stores (buffers) soft fonts and lengthy print jobs in an area of memory, which frees up Q&A faster, allowing you to get on with your work. PrintCache can be especially handy when the print job requires you to download a lot of fonts.

Downloading fonts with a batch file

I load PrintCache via my AUTOEXEC.BAT file and use a DOS batch file to start TSR Download. I download the soft fonts I use most often and then start Q&A. Here's what my batch file looks like:

```
@ECHO OFF
DL /C:\FONTS\FONTLIB
CD\FONTS
DL FONTS.LST
CD\QA4
QA C:\QAFILES1\PERSONAL.DTF
MENU
```

The first line that begins with DL loads TSR Download from the C:\FONTS\ subdirectory, which, in turn, loads a font library I created in the

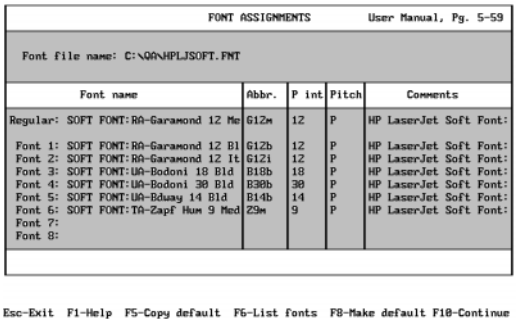
FONT ASSIGNMENTS
User Manual, Pg. 5-59
Font file name: C:\QA\HPLJSOFT.FNT
Font name
Abbr.
P int
Pitch
Comments
Regular: SOFT FONT:RA-Garamond 12 Me G12m 12 P HP LaserJet Soft Font:
Font 1: SOFT FONT:RA-Garamond 12 Bl G12b 12 P HP LaserJet Soft Font:
Font 2: SOFT FONT:RA-Garamond 12 It G12i 12 P HP LaserJet Soft Font:
Font 3: SOFT FONT:UA-Bodoni 18 Bld B18b 18 P HP LaserJet Soft Font:
Font 4: SOFT FONT:UA-Bodoni 30 Bld B30b 30 P HP LaserJet Soft Font:
Font 5: SOFT FONT:UA-Bdway 14 Bld B14b 14 P HP LaserJet Soft Font:
Font 6: SOFT FONT:TA-Zapf Hum 9 Med Z9m 9 P HP LaserJet Soft Font:
Font 7:
Font 8:
Esc-Exit F1-Help F5-Copy default F6-List fonts F8-Make default F10-Continue

Figure 2. *Use the Font Assignments screen to specify the Q&A font description file (here, it's HPLJSOFT.FNT) and then select from the available font descriptions in that file. Press F10 to save your assignments for the current document only. Press F8 to make them the default for future documents as well. Your assignments then appear on the Text Enhancements and Fonts menu.*

© Pinnacle Publishing, Inc.

Soft Font Tips and Troubleshooting

- To save time, create a DOS batch file that downloads the soft fonts you routinely use.
- Be sure you're using the correct Q&A font description file for the fonts you use. You can have only one font description file in use at a time.
- You can use the QAFONT.EXE utility to create font descriptions from HP-compatible soft font files and append them to your existing Q&A font description file.
- You can combine font description files using the DOS COPY/B command. For example, to create a new LASER3.FNT file from existing LASER1.FNT and LASER2.FNT files, use this command:

```
COPY/B LASER1.FNT + LASER2.FNT = LASER3.FNT
```

- Be sure you have the correct printer installed. Check your Printer Selection screen by choosing Utilities / Install Printer from the Main menu.
- You can install different versions or modes of the same printer to have quick access to a greater variety of printing capabilities. For example, you can create a printer definition using the HPLASERJ.FNT file for the HP LaserJet internal fonts and another printer definition using the HPLJSOFT.FNT file for the soft fonts you have. You can specify these as Printer A and Printer B, which is how they'll appear on your Print Options screen.
- Symantec may have an updated font description file for your printer available free of charge from the Symantec bulletin board and from the Symantec forum on CompuServe.
- For more information on fonts and printers, review the pertinent sections of your *Q&A 4.0 User Manual*, including pages 5–54 through 5–64, and Appendix B, pages 8 through 10, as well as the manual that came with your printer.

—*T.M.*

same program. I can later select and download any special fonts I want to use from this library.

The next line (CD\FONTS) changes to the directory where I store my soft fonts and downloads a group of fonts (FONTS.LST) to the printer. FONTS.LST consists of a set of proportionately spaced text fonts, a few bold sans serif fonts for headings, and a script font I use to "sign" my mail merge letters. If I find I need other fonts, I simply select them via TSR Download's pop-up menu from inside Q&A.

The next two lines change to my Q&A directory and start Q&A with the database I use most often.

All the tools you need to successfully use soft fonts in Q&A for DOS are readily available. Once you've tailored your font system to your own preferences, you'll have all the advantages of a fast and familiar Q&A for DOS with all the fonts you're ever likely to need.

Roger M. Skidmore, an ophthalmic optician, lives on the Isle of Wight in the British Isles.

QUICKTIP

Get More Font Power

DOS

Q&A won't let you specify more than one .FNT font file at a time, but here's an undocumented workaround. Suppose you use two font cartridges whose font definitions are in different .FNT files. Using the DOS COPY/B command, you can combine these files into a new .FNT file and enjoy access to all the font definitions. For example, if you have two laser font files named LASER1.FNT and LASER2.FNT, you can create a new and all inclusive LASER3.FNT file like this:

```
COPY/B LASER1.FNT + LASER2.FNT = LASER3.FNT
```

Now, when you specify the LASER3.FNT file for your document, report, or Print Spec, you'll have access to all your font definitions.

Roger Skidmore, Isle of Wight

© Pinnacle Publishing, Inc.

@HELP

Edited by Dave Reid

Perform Conditional XLookups

DOS WIN

Q I use XLookup commands to pull pricing information from a parts database into an invoice record. I sell both new and used parts. The parts database has one record per item, but with two different price fields: New Price and Used Price. On the invoice, I indicate whether the part is new or used. So far, XLookup only gets the New Price. Can I control the XLookup to retrieve the correct price depending on what's indicated in the invoice?

Melvin Getlan, New Rochelle, New York

A You can use If-Then logic to control which of two XLookup statements is executed. The following program checks the contents of the NewOrUsed field. If the field is marked Used, the Used Price is retrieved; otherwise, the New Price is retrieved.

```
If NewOrUsed1 = "Used"
  Then {
      XLookup("PARTS.DTF", Part No1, "Part No",
              "Used Price", Price1)
       }
  Else {
      XLookup("PARTS.DTF", Part No1, "Part No",
              "New Price", Price1)
       };
```

You'll need to repeat this statement for each line of the invoice, changing the line-item field references (NewOrUsed1, Part No1, and Price1) to the pertinent line number.

No Password Protection for Documents

WIN

Q I use Q&A Write for Windows and share my PC with a co-worker. Some of my documents contain sensitive information that I want to protect. I know how to assign passwords to databases, but I don't know of a way to lock documents. What can I do?

Paul Russell, San Diego, California

A Q&A can't password protect documents. The only solution I can think of is to use a separate utility, such as Norton Desktop for Windows. Norton Desktop allows you to create icons on your desktop for documents and assign passwords to them. This doesn't afford complete protection, though, because the password only stops unauthorized users from launching the application with that document opened. It doesn't prevent them from starting Q&A Write and then opening the sensitive document.

Find Records with Two Matching Values

DOS WIN

Q I use Q&A to process work orders for my company. I want to count the number of work orders completed in one day, and to do this I need to retrieve the records where the Begin Date is the same as the End Date. I know how to retrieve records where the two fields contain specific dates, but how can I retrieve records where the dates match but I don't know what they are?

Jim Ham, Colorado Springs, Colorado

A You can use a Retrieve Spec expression to select all records where the two fields contain the same date. Type the following in any field at the Retrieve Spec:

```
{Begin Date = End Date}
```

This is a called a Boolean (True or False) expression. It tells Q&A to select the records where the expression is true. You can use this kind of expression to search for records where any two fields contain the same value.

Date- and Time-Stamp Your Reports

DOS WIN

Q I'm familiar with Q&A for DOS reports, and I've started using Freeform reports in Q&A for Windows. How do I tell Q&A to place the current date in the Freeform report header so the printed report shows the run date? I've tried typing @Date into a text field, but that doesn't work.

ReJena Gibbs, Santa Fe, New Mexico

A You're headed in the right direction. Place a text object in the header, but don't type anything in the box. Instead, while your cursor is in the text box,

Continues on page 11

© Pinnacle Publishing, Inc.

Design a Time Performance Report

When time is of the essence, a Q&A report can help you spot lapses, improvements, and performance trends.

By Joe LaDew with Tom Marcellus

DOS WIN

MY department receives and logs incoming packages from various carriers and delivers them to the recipients in the building. I wanted an overview of how well we were doing; that is, how long it was taking between the time we received packages on the dock and when we delivered them. I already had a database to track the essential information, so I decided to create a report to reflect our performance in terms of delivery within two hours, two to four hours, four to six hours, six to eight hours, the following day, and two days or more later.

A report such as this can come in handy when you have a starting time and a completion time, which may not be the same day, and you want to see how long an activity takes. I created this columnar report in Q&A 4.0 for DOS (see Figure 1), though the design principles apply to a Q&A for Windows report as well.

A problem solved

One problem I encountered with the report was that packages received on Friday and delivered the following Monday were appearing under the 3rd Day or More column, which was technically correct but wasn't fair because we didn't work on Saturdays and Sundays. However, by making special use of the @Text function in conjunction with the @Dow$ function in the report's derived column formulas (see the sidebar, "Two Handy Built-In Functions"), I was able to correct for an intervening weekend and get the information needed to accurately gauge performance.

Report design

Figure 1 shows a portion of the Delivery Performance report with packages received December 1 through December 27 and delivered December 1 through December 29. The report includes the Package ID (a combination of the destination department and sequential package number), the date and time we received the package on the dock, the date and time we delivered it, who delivered it, and the delivery time frame. Using this report, we're able to spot, among other things, delivery trends, as well as determine which departments, if any, are consistently getting their packages late.

Date Recvd	Time Recvd	Delvd By	Date Delvrd	Time Delvrd	Delvrd 0 to 2 Hours	Delvrd 2 to 4 Hours	Delvrd 4 to 6 Hours	Delvrd 6 to 8 Hours	Delvrd 2nd Day	Delvrd 3rd Day or More
12/1/94	9:45 am	JD	12/1/94	10:15 am	HR-10377					
12/1/94	11:50 am	TD	12/5/94	9:15 am						HR-10378
12/1/94	3:25 pm	TD	12/2/94	10:45 am					SA-10379	
12/22/94	9:00 am	JB	12/22/94	3:00 pm			SA10429			
12/22/94	11:00 am	TD	12/22/94	11:30 am	SA10430					
12/23/94	8:45 am	JB	12/23/94	1:00 pm			RD10431			
12/23/94	1:30 pm	TD	12/23/94	4:15 pm		HR10433				
12/23/94	3:00 pm	JB	12/26/94	9:00 am					PR10434*	
12/23/94	3:00 pm	JB	12/23/94	4:45 pm	AD10435					
12/23/94	3:20 pm	TD	12/27/94	9:10 am						RD10440
12/26/94	8:45 am	JB	12/26/94	4:00 pm				SA10438		
12/26/94	11:00 am	JD	12/26/94	1:15 pm		HR10436				
12/26/94	11:30 am	JB	12/27/94	9:00 am					RD10437	
12/27/94	3:30 pm	TD	12/29/94	8:45 am						SA10437
Count:					37	22	42	19	12	7

* Received Friday and Delivered Monday

Figure 1. *The Delivery Performance report shows a breakdown of deliveries by time frame. Packages received Friday and delivered Monday are included as second day deliveries. The asterisk indicates an intervening weekend.*

Continued from page 10

select Paste Special from the Edit Menu and then select Date Symbol. This places a special marker in the field that Q&A replaces with the current date when the report is printed. (It works like @Date in Q&A for DOS.) If you need to include the time of day the report was printed, you can add the Time Symbol to the header the same way.

Dave Reid is a Symantec senior support analyst providing second-level assistance to the technical support representatives. He's also the coauthor of The Q&A 4.0 Wiley Command Reference, *published by John Wiley and Sons, and works as an independent Q&A consultant. PO Box 12083, Eugene, OR 97440.*

Have a nagging question? Send it to **@Help, *The Quick Answer*, PO Box 888, Kent, WA 98035-0888** or fax to 206-251-5057. Please include your name, address, and phone number, along with your Q&A version number (and whether DOS or Windows) and a description of the problem. We will publish those questions we feel are of general reader interest. Individual responses are not possible.

© Pinnacle Publishing, Inc.

Two Handy, Built-In Functions

Among Q&A's many built-in functions, @Text and @Dow$ are crucial to the Delivery Performance report.

- @Text(n,x), abbreviated @Txt(n,x), returns a text value consisting of *n* copies of the string *x*. However, you can make the *n* parameter a conditional expression that Q&A evaluates as true or false. If it's true, Q&A prints the string *x*. If it's false, Q&A doesn't print anything. In this case, the *x* parameter is the invisible entry in column #15, the Package ID. Thus when the *n* conditional expression is true, Q&A executes the *x* parameter, printing the Package ID in the column. Another example of using @Text to test conditions (for an accounts receivable aging report) can be found on page A-10 of the Q&A 4.0 *Application Programming Tools Manual*.

- @Dow$(n), abbreviated @Dw$(n), returns the name of the day of the week (Monday, Tuesday, and so forth) of the date *n*. *N* can be a date value or a date field. In the derived column formulas for the Delivery Performance report, @Dow$ is placed inside the conditional @Text function to determine if the package was received on a Friday and delivered the following Monday. This enables the report to include a qualifying statement for packages that would otherwise appear to have been delivered late.—*T.M.*

Set Global Format Options first

Before creating the report, you should set the appropriate Global Format Options. To get to the Report Global Format Options screen from the Main menu, select Report / Set Global Options. Type in the name of the database and select Columnar Global Options / Set Format Options. (See Figure 2.) The Global Format Options for the Figure 1 report are as follows:

- Space between columns = 1. This setting fixes the minimum column spacing to help keep the report's width under control.

- Default to repeating values = Yes. The Figure 1 report is sorted by Date Received and then by Time Received. Set this option to Yes if you want recurring dates printed. Set it to No if you want to print only the first occurrence of a recurring date.

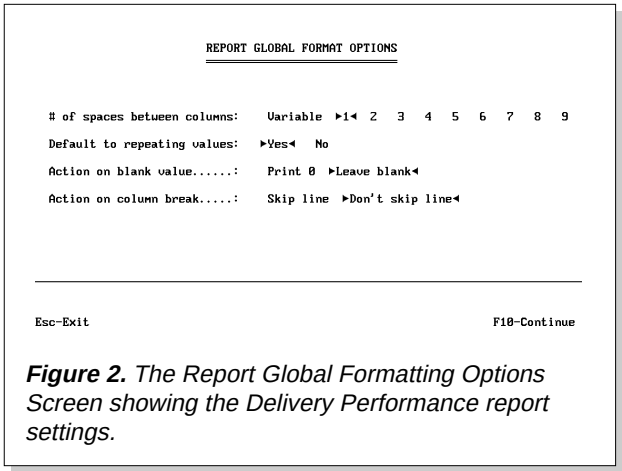
REPORT GLOBAL FORMAT OPTIONS
# of spaces between columns: Variable ▶1◀ 2 3 4 5 6 7 8 9
Default to repeating values: ▶Yes◀ No
Action on blank value.....: Print 0 ▶Leave blank◀
Action on column break.....: Skip line ▶Don't skip line◀
Esc-Exit
F10-Continue

Figure 2. *The Report Global Formatting Options Screen showing the Delivery Performance report settings.*

- Action on column break = Don't skip line. Set this option to Skip line if you want Q&A to add a blank line when the date changes.

Create the column specifications

After you've set your format options, you need to fill out the Column/Sort Spec and derived columns. Figure 3 shows the Column/Sort Spec parameters for the pertinent fields.

The H (Heading) command in the Column/Sort Spec fixes the column widths, specifies the heading text, and splits the heading onto multiple lines. The F (Format) command right aligns the time values and centers the delivery person's initials. The Package ID is included as a column but is made invisible (with the I command) so its entries can be used in the derived columns to follow.

Figure 4 shows the seven derived columns. Press F8 from the Column/Sort Spec to reach the Derived Columns screen and press F9 to return to the Column/Sort Spec. Create the first four derived columns, then press PgDn to create the final three. To save space, you can abbreviate @Text, @Txt, and @Dow$, @Dw$, and eliminate all spaces.

Derived columns explained

Let's take a closer look at a few of the derived columns, starting with the second one, to see what makes them tick.

Heading—In the second derived column (column 45) the column heading, 8:Delvrd!2 to 4!Hours, limits the column to eight characters in width and splits the heading onto three lines. Fixing column widths and splitting headings in this manner enables this rather wide report (more than 90

© Pinnacle Publishing, Inc.

```
 Date Received: 5,AS,H(8:Date Recvd!at Dock)
 Time Received: 10,AS,H(8:Time Recvd!at Dock),F(JR)
    Package ID: 15,I
  Delivered By: 20,H(5:Delvd!By),F(JC)
Date Delivered: 25,H(8:Date!Delvrd)
Time Delivered: 30,H(8:Time!Delvrd),F(JR)
```

Figure 3. *The Column/Sort Spec for the Delivery Performance report. Only the pertinent fields are shown here.*

columns) to print in a 10-point font in landscape orientation on a standard sheet of paper.

Formula—Column 45's formula is this expression:

```
@Txt(#5=#25 and #30-#10>2:00 and #30-#10<=4:00,#15)
```

Here, the @Text function is used as a conditional command. (See the sidebar, "Two Handy Built-in Functions.") It tells Q&A that three conditions must be satisfied before for the package can be included in the column. Here's what the expression says:

```
"If the Date Received and the Date Delivered are the
same, and the Time Delivered is more than two hours but
less than or equal to four hours later than the Time
Received, then print the Package ID (#15) in this column."
```

Recall that the Package ID column is made invisible in the Column/Sort Spec. This formula makes it visible (prints it) if the expression's three conditions are satisfied.

Column Spec—Column 45's spec, 45,C,F(JC), tells Q&A to assign number 45 to this column (its position relative to the other columns), to print a count of column entries, and to center align the entries and the count.

The fifth, sixth, and seventh derived columns (columns 60, 65, and 70, respectively) account for packages that aren't delivered the same day they're received.

Column 60's formula checks to see if a day has passed between the Date Received and the Date Delivered or if the Date Received is a Friday and the Date Delivered is a Monday. If either condition is true, Q&A remembers the Package ID but, because of the I (invisible) command, doesn't print it. Printing is taken care of by the next column, column 65.

Column 65's formula checks to see if the Date Received is Friday and the Date Delivered is Monday. If so, it adds an asterisk to the Package ID determined in column 60's formula; otherwise, it prints the Package ID without the asterisk. Parcels with asterisks are explained by the footer. (See Figure 1.)

```
Heading: 8:Delvrd!0 to 2!Hours
Formula: @Txt(#5=#25 and #30-#10<=2:00,#15)
Column Spec: 40,C,F(JC)

Heading: 8:Delvrd!2 to 4!Hours
Formula: @Txt(#5=#25 and #30-#10>2:00
        and #30-#10<=4:00,#15)
Column Spec: 45,C,F(JC)

Heading: 8:Delvrd!4 to 6!Hours
Formula: @Txt(#5=#25 and #30-#10>4:00
        and #30-#10<=6:00,#15)
Column Spec: 50,C,F(JC)

Heading: 8:Delvrd!6 to 8!Hours
Formula: @Txt(#5=#25 and #30-#10>6:00
        and #30-#10<=8:00,#15)
Column Spec: 55,C,F(JC)

Heading: Weekend Calc
Formula: @Txt(#25-#5=1 or (@Dw$(#25)="Monday"
        and @Dw$(#5)="Friday"),#15)
Column Spec: 60,I

Heading: 8:Delvrd!2nd Day
Formula: #60+@Txt(@Dw$(#25)="Monday"
        and @Dw$(#5)="Friday","*")
Column Spec: 65,C,F(JC)

Heading: 8:Delvrd!3rd Day!or More
Formula: @Txt(#25-#5>1 and #65="",#15)
Column Spec: 70,C,F(JC)
```

Figure 4. *The seven derived columns determine the delivery time-frame heading under which each package is placed. The longer formulas are split here onto two lines for space reasons.*

Column 70's formula accounts for cases where more than a day passed between the Date Received and the Date Delivered, but the package isn't included in the Delvrd 2nd Day column (as a package received Friday and delivered Monday would be). Packages received on Friday and delivered Tuesday or later, for example, would appear in this Delvrd 3rd Day or More column, as would packages received Thursday and delivered Monday or later. Because Q&A calculates column entries from left to right, row to row, a derived column formula can check an earlier column on the same row for an entry. This is what the #65="" portion of column 70's formula does.

And that's all there is to it.

A report such as this can help you spot trends, lapses, and strong points in time-sensitive activities, as well as good (or poor) performance. Q&A's derived column capabilities, including @Text for If-Then conditionals, provide all the flexibility you're ever likely to need.

Joe LaDew works in the Shipping and Receiving area of AT&T Bell Laboratories in Holmdel, New Jersey, and uses Q&A to track his department's activities.

© Pinnacle Publishing, Inc.

Protect Fields from Changes

Need to protect sensitive fields from being changed once the record is saved? Here's a technique that gives you the benefits of read-only status without the drawbacks.

By Jeff Nitka

DOS WIN

WHAT do you do if you need to make the data in sensitive fields uneditable during Search/Update operations? You might have invoice records with information you want to protect against changes, or an employee record containing data you don't want accidentally altered or erased.

You can't make the fields you want to protect read-only because that would prevent you from entering the information in the database in the first place. You need a way to leave the fields fully accessible and editable when you're adding new records but make them uneditable once the record is saved. I'll show you a technique that's easy to implement and does the job effectively.

To illustrate my field protection technique, I'll use a database design that allows the entry of information into any field while adding a new record. Once the record has been saved, however, only one of the fields will remain editable while the rest are protected. You can use the technique in any database to protect as few or as many fields you want.

Choose the fields do you want to protect

Figure 1 shows a simplified invoice record. All the fields on the first page are visible and accessible during Add Data. In other words, you can freely enter and change the information in these fields as long as you're creating a new record. These open fields are as follows:

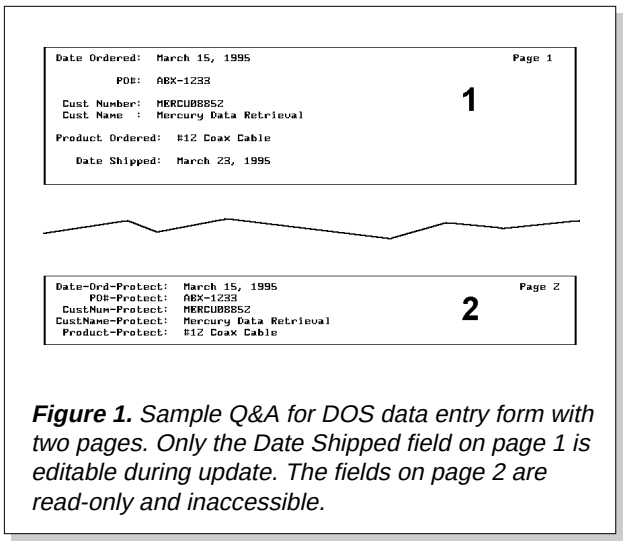

Figure 1. *Sample Q&A for DOS data entry form with two pages. Only the Date Shipped field on page 1 is editable during update. The fields on page 2 are read-only and inaccessible.*

```
Date Ordered
PO#
Cust Number
Cust Name
Product Ordered
Date Shipped
```

The following fields on page 2 of the form are duplicates of the fields on page 1 that you want to protect:

```
Date-Ord-Protect
PO#-Protect
CustNum-Protect
CustName-Protect
Product-Protect
```

In this database, the only field that can be updated is Date Shipped. That's why it doesn't have a corresponding Date-Shipped-Protect field on page 2.

There's no point to displaying these special-purpose protection fields on the form. That's why I've placed them on page 2 (or the last blank page in the form) and made them read-only. This way, you won't be able to move to page 2 during Add data or Search/Update, and these special-purpose fields won't get in your way. (See the sidebar, "How to Make Fields Read-Only.")

Table 1 shows the fields for pages 1 and 2 with their corresponding Program Spec field ID numbers and format. To maintain consistency, each field's format on page 2 must be the same as its page 1 counterpart.

Add the programming

Only one field requires programming to make the protection scheme work. Place the program in one of the read-only fields on page 2. (See the sidebar, "How to Use the Program Spec.") Here, I've placed it in field #7, the Date-Ord-Protect field:

```
#7: If @Add then
      { #7 = #1; #8 = #2; #9 = #3; #10 = #4;
        #11 = #5 }
  Else { #1 = #7; #2 = #8; #3 = #9; #4 = #10;
        #5 = #11 }
```

Field #6 (Date Shipped) isn't included in the program because it has to remain editable during Search/Update.

© Pinnacle Publishing, Inc.

Set the calculation mode

After you've entered and saved your program, you need to do one more thing. Display a record in Add Data or Search/Update mode, but before adding any information to it, set the calculation mode to Automatic by pressing Shift-F8, highlighting Automatic, and pressing F10. (In Q&A for Windows, press Shift-F8 to display the Calculation Options window, select Automatic, and click OK.) Automatic calculation mode tells Q&A to execute the program when the cursor leaves any field that's been changed. During Add Data, Q&A executes the @Add portion of the program, copying the data from the protected page 1 fields to their counterparts on page 2. During Search/Update, Q&A executes the Else (@Update) portion of the program, copying the data from the page 2 fields back to their page 1 counterparts.

After you've entered your data and saved the record, all of the fields on page 1, with the exception of Date Shipped (field #6), will be protected. The page 2 fields are protected in any case because they're read-only.

What happens during data entry

Here's how the database behaves during use. When you're adding a new record, you'll be able to enter data in any field on page 1. As you enter the information, the program, set to Automatic Calc mode, copies the data to the matching fields on page 2. Once you save the record, and access it later in Search/Update mode, you'll still be able to freely navigate the fields on page 1, but if you try to change the data in any protected field, the automatic calc mode will copy the information from the fields on page 2 to the corresponding fields on page 1. Thus, any attempt to change a field's value (except for the unprotected Date Shipped field) will result in the field's original data being returned to it.

What if I really need to change a protected field?

You can use Mass Update to change a protected field's value. At the Mass Update Retrieve Spec, select the record whose protected field you want to change and press F10. At the Update Spec, move to the field you want to change, type #1="new value" (replace new value with your new value), and press F10 to execute the update. Q&A doesn't execute Calculation statements during a Mass Update unless you press F8

How to Make Fields Read-Only

Assigning read-only status to a field protects it from changes. Q&A will display its contents but won't let you move the cursor to it during Add Data or Search/Update, though any programming in the field will execute just the same, and you can still search on a read-only field.

When a screen page contains nothing but read-only fields, Q&A won't let you move to that screen during data entry. Therefore, if you have a group of fields to store interim calculations, hold temporary values, or make invisible, you can put them on an otherwise blank screen page. Q&A will place that page "off limits" during data entry.

Follow these steps to make fields read-only:

Q&A for DOS

1. From the Main menu, select File / Design File / Program a file, enter the name of the database, and select Read-Only Fields.
2. At the Read-Only Fields Spec, type an R in each field you want to make read-only.
3. Press F10 to save the Spec.

Q&A for Windows

1. Open the Select menu, and choose Database Structure.
2. Double-click on a field in the Programming column to display the Edit Programming window.
3. Click on the field you want to make read-only.
4. Click on the Read-Only box.
5. Repeat steps 4 and 5 to make other fields read-only.
6. When you're finished, click OK to save your changes.

Table 1. *Fields for pages 1 and 2 with Program Specs, ID numbers, and format.*

Page 1 Fields			Page 2 Fields		
Name	**ID**	**Format**	**Name**	**ID**	**Format**
Date Ordered	#1	D	Date-Ord-Protect	#7	D
PO#:	#2	T	PO#-Protect	#8	T
Cust Number	#3	T	CustNum-Protect	#9	T
Cust Name	#4	T	CustName-Protect	#10	T
Product Ordered	#5	T	Product-Protect	#11	T
Date Shipped	#6	D			

© Pinnacle Publishing, Inc.

How to Use the Program Spec

Follow these steps to program a database field:

Q&A for DOS

1. From the Main menu, select, File / Design a file / Program a file, enter the name of the database, and select Program form.
2. Move to the field you want to program, and press F6 to expand it.
3. Type in your programming statement.
4. Press F6 to close the field, and press F10 to save the Spec.

Q&A for Windows

1. Open the Select menu, and choose Database Structure.
2. Double-click on a field in the Programming column to display the Edit Programming window.
3. Click on the field you want to program.
4. Enter the programming statement for this field.
5. Click OK to save the Spec.

from the Update Spec and set Calculation statements to Yes. For this purpose, leave Calculation statements set to the default No.

Jeff Nitka is pursuing a mathematics and computer science degree at Rutgers University in New Jersey. He also works part time as a software developer. Epoch Software, 908-846-2355.

[Another field protection scheme you can use doesn't require a duplicate set of read-only fields but involves more programming and runs a bit slower because of the lookups. It's an Auto-calc @Update program that replaces changed field values in the displayed record with the corresponding field values from the same record stored on disk. Here's a sample program that protects fields #2, #3, and #4 against changes. In this example, field #1 is the matching key value and must be Speedy:

```
If @Update then {#2= @XLookup(@Fn, #1, "X#1", "X#2");
                 #3= @XLookup(@Fn, #1, "X#1", "X#3");
                 #4= @XLookup(@Fn, #1, "X#1", "X#4")}
```

This program can be placed in any field.—Ed.]

PINNACLE

Pinnacle Publishing, Inc.
PO Box 888
Kent, WA 98035-0888
206-251-1900
206-251-5057 (fax)

Second-Class Postage Paid at Kent, WA

Printed in the U.S.A. on recycled paper.